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Application Number	10/635,720
Filing Date	August 6, 2003
First Named Inventor	Shinichiro KAWANO et al.
Art Unit	2834
Examiner Name	Jones, Judson
Attorney Docket Number	MATS:027A

Sheet	1	of	2
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[illegible]

FOREIGN PATENT DOCUMENTS						
Examiner Initials <sup>a</sup>	Cite No. <sup>1</sup>	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages Or Relevant Figures Appear	T <sup>5</sup>
		Country Code <sup>3</sup> Number <sup>4</sup> Kind Code <sup>2</sup> (if known)				
	B	JP 62296758 A	12-24-1987	SEIKO EPSON	Abstract only	

Date  
Considered

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PTO/SB/08B (08-03)

Approved for use through 07/31/2006. OMB 0651-0031

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Substitute for form 1449/PTO  <b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  <i>(Use as many sheets as necessary)</i>		<b>Complete If Known</b>	
		Application Number	Shinichiro KAWANO et
		Filing Date	August 6, 2003
		First Named Inventor	Shinichiro KAWANO et al.
		Art Unit	2834
		Examiner Name	Jones, Judson
Sheet 2	of 2	Attorney Docket Number	MATS:027A

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
	C	Relevant portion of the Supplementary European Search Report	
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EP 228.1 (2)

## EUROPEAN PATENT OFFICE

## Patent Abstracts of Japan

PUBLICATION NUMBER : 62296758

PUBLICATION DATE : 24-12-87

APPLICATION DATE : 13-06-86

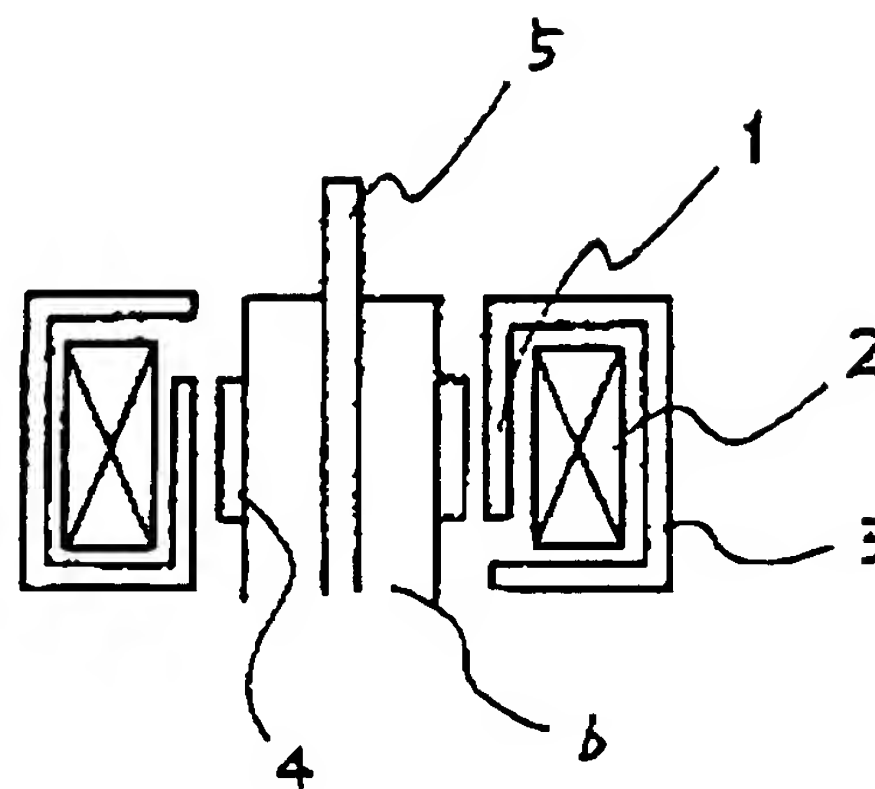
APPLICATION NUMBER : 61137616

APPLICANT : SEIKO EPSON CORP;

INVENTOR : TOMITA TADAHARU;

INT.CL. : H02K 37/00 H02K 1/02

TITLE : STEP MOTOR



**ABSTRACT :** **PURPOSE:** To improve effective permeability in a high frequency domain by using a composite material consisting of powder ferromagnetic material, resin and so on for a sinking comb and a yoke.

**CONSTITUTION:** Atomized iron powder of average particle diameter 200 $\mu$  is treated by silane coupling, dried and heated to improve its adhesion, and thereafter kneaded with 10 volume percent epoxy resin to be granulated into particles of diameter 0.2–1mm. These granules are packed into a press die for pressing after their removal from the die, cured at 150°C to be assembled into a sinking comb 1 and a yoke 3. A thickness of plate material of the sinking comb 1 and yoke 3 used in a PM-type step motor is 1mm or thereabout and said plate is composed of powder composite material of diameter about 0.1mm. As a result, an eddy current loss can be reduced to about  $10^{-5}$  of the former one.

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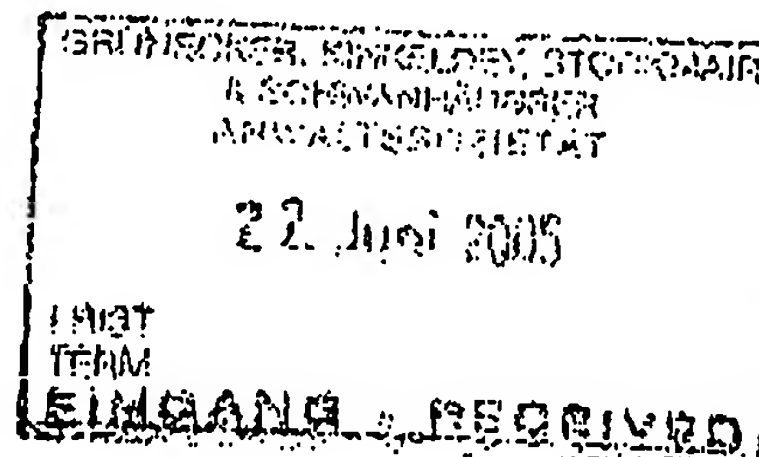
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ALLEMAGNE



Datum/Date

22.06.05

Zeichen/Ref./Réf.

EP20281-50/kg

Anmeldung Nr./Application No./Demande n°./Patent Nr./Patent No./Brevet n°.

00917295.8-1528-JP0002382

Anmelder/Applicant/Demandeur/Patentinhaber/Proprietor/Titulaire

MATSUSHITA ELECTRIC INDUSTRIAL CO., LTD.

## COMMUNICATION

The European Patent Office herewith transmits as an enclosure the European search report for the above-mentioned European patent application.

If applicable, copies of the documents cited in the European search report are attached.

☒ Additional set(s) of copies of the documents cited in the European search report is (are) enclosed as well.

## REFUND OF THE SEARCH FEE

If applicable under Article 10 Rules relating to fees, a separate communication from the Receiving Section on the refund of the search fee will be sent later.



European Patent  
OfficeSUPPLEMENTARY  
EUROPEAN SEARCH REPORTApplication Number  
EP 00 91 7295

## DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
X	US 5 751 075 A (KWON ET AL) 12 May 1998 (1998-05-12) * column 2, line 59 - column 3, line 5 * * figures 1A-5 *	1-17	H02K33/16
X	PATENT ABSTRACTS OF JAPAN vol. 012, no. 196 (E-618), 7 June 1988 (1988-06-07) & JP 62 296758 A (SEIKO EPSON CORP), 24 December 1987 (1987-12-24) * abstract *	18	
The supplementary search report has been based on the last set of claims valid and available at the start of the search.			

TECHNICAL FIELDS  
SEARCHED (Int.Cl.7)

H02K

Place of search

Berlin

Date of completion of the search

9 June 2005

Examiner

Foussier, P

## CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone  
Y : particularly relevant if combined with another document of the same category  
A : technological background  
O : non-written disclosure  
P : intermediate document

T : theory or principle underlying the invention  
E : earlier patent document, but published on, or after the filing date  
D : document cited in the application  
L : document cited for other reasons

& : member of the same patent family, corresponding document

**ANNEX TO THE EUROPEAN SEARCH REPORT  
ON EUROPEAN PATENT APPLICATION NO.**

EP 00 91 7295

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.  
The members are as contained in the European Patent Office EDP file on  
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09-06-2005

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
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			IT MI962337 A1	12-05-1998
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JP 62296758	A	24-12-1987	NONE	
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